

What is claimed is:

1. A method of coating the surface of an inorganic powder comprising;
(a) providing an alcohol solution of an alcohol-soluble metal salt and an alcohol solution of an amine compound; and

5 (b) mixing and stirring the two alcohol solutions with an inorganic powder and water, thereby coating the surface of the inorganic powder with a metal hydroxide produced from the alcohol-soluble metal salt.

2. The method of claim 1, further comprising drying the inorganic powder
10 and heat-treating the inorganic powder at a temperature range of 300~500 °C under an oxidative atmosphere so as to convert the metal hydroxide coating into a metal oxide coating.

3. The method of claim 2, further comprising the step of washing the
15 inorganic powder coated with the metal hydroxide using a lower aliphatic alcohol with 1 to 4 carbon atoms between the drying step and the heat-treating step.

4. The method of claim 1, wherein 0.1~1.5M of the inorganic powder,
0.1~1.5M of the alcohol-soluble metal salt, 0.2~3.0M of the amine compound and
20 0.05~0.3M of water is stirred for 12~72 hours.

5. The method of claim 1, wherein the inorganic powder is mixed in a slurry state dispersed in alcohol or in powder state itself.

25 6. The method of claim 1, wherein the alcohol is an alcohol compounds having 1~5 OH groups and is in liquid phase at room temperature.

7. The method of claim 6, wherein the alcohol is C1~C7 aliphatic mono-ol compound, C6~C9 aromatic mono-ol compound, C4~C7 alicyclic mono-ol compound, C3~C7 heterocyclic mono-ol compound, C2~C7 aliphatic di-ol compound or C2~C7 aliphatic tri-ol compound.

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8. The method of claim 1, wherein the inorganic powder is at least one metal powder selected from the group consisting of Ni, Cu, Pd and Ag.

9. The method of claim 1, wherein the inorganic powder is at least one metal oxide powder selected from the group consisting of TiO₂, ZrO₂, TiZrO₄, Al₂O₃, SiO₂, Y₂O₃, MgO, Mn₃O₄, MnO₂, NiO and ZnO.

10. The method of claim 1, wherein the amine compound is at least one selected from the group consisting of methyl amine, di-methyl amine, tri-methyl amine, ethyl amine, di-ethyl amine, tri-ethyl amine, n-propyl amine, iso-propyl amine, n-butyl amine, sec-butyl amine, iso-butylamine, tert-butylamine, cyclohexylamine, benzylamine, α-phenylethylamine, β-phenylethylamine, ethylenediamine, tetramethylenediamine, hexamethylenediamine, aniline, methylaniline, dimethylaniline, diphenylamine, triphenylamine, o-toluidine, m-toluidine, p-toluidine, o-anisidine, m-anisidine, p-anisidine, o-chloroaniline, m-chloroaniline, p-chloroaniline, o-bromoaniline, m-bromoaniline, p-bromoaniline, o-nitroaniline, m-nitroaniline, p-nitroaniline, 2,4,5-trinitroaniline, 2,4,6-trinitroaniline, o-phenylenediamine, m-phenylenediamine, p-phenylenediamine, benzidine, p-aminobenzoic acid and sulfanilic acid.

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11. The method of claim 1, wherein the alcohol-soluble metal salt includes chlorides, sulfates, nitrates, acetates or alkoxides of Ti, Zr, Hf, Si, V, Cr, Mn, Fe, Co,

Zn, Pb or mixtures thereof.

12. The method of claim 2, wherein the metal hydroxide includes metal hydroxide of Ti, Zr, Hf, Si, V, Cr, Mn, Fe, Co, Zn, Pb or mixtures thereof.

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13. An inorganic powder coated with metal oxide on the surface of the powder prepared by the method according to any one of claims 1 to 12.

10 14. An inorganic powder coated with a metal oxide, wherein each of the inorganic powder exist independently without substantially being agglomerated, and wherein the metal oxide coating is deposited only on the surface of the inorganic powder with uniform thickness without being substantially clustered in the space between the inorganic powders.

15 15. The inorganic powder of claim 14, wherein the inorganic powder at least one metal powder is selected from the group consisting of Ni, Cu, Pd and Ag.

20 16. The inorganic powder of claim 14, wherein the inorganic powder is at least one metal oxide powder selected from the group consisting of TiO_2 , ZrO_2 , TiZrO_4 , Al_2O_3 , SiO_2 , Y_2O_3 , MgO , Mn_3O_4 , MnO_2 , NiO and ZnO .

17. The inorganic powder of claim 14, wherein the metal oxide coated on the inorganic powder is TiO_2 , MgO , SiO_2 , BaTiO_3 , or a rare-earth metal oxide.

25 18. The inorganic powder of claim 14, wherein the average diameter of the inorganic powder is about $10\text{nm} \sim 100\mu\text{m}$, and the thickness of the metal oxide coated on the inorganic powder is about $0.1 \sim 500\text{nm}$.